

**THE PUBLIC SCHOOL EMPLOYEES'  
RETIREMENT SYSTEM OF PENNSYLVANIA**

**ACTUARIAL VALUATION  
JUNE 30, 2011**



January 31, 2012

The Retirement Board  
Public School Employees'  
Retirement System of Pennsylvania  
P.O. Box 125  
Harrisburg, Pennsylvania 17108

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the Public School Employees' Retirement System of Pennsylvania (Retirement System or PSERS) as of June 30, 2011.

The valuation takes into account all of the promised benefits to which members are entitled as of June 30, 2011, including pension and survivor benefits, and as required by the Public School Employees' Retirement Code, 24 Pa. C.S. §8101 et. seq. (Retirement Code) is the basis for the contribution rate for fiscal year 2012/2013.

As required under Section 8502(j) of the Retirement Code, experience studies are performed once in every five year period. This valuation was prepared on the basis of the demographic and economic assumptions that were determined from the July 1, 2005 to June 30, 2010 Experience Review and adopted by the Board of Trustees at their March 11, 2011 meeting. As mandated by the Retirement Code, these assumptions will remain in effect for valuation purposes until such time the Board of Trustees adopts revised assumptions. As adopted by the Board of Trustees at their March 11, 2011 meeting, the valuation interest rate was changed to 7.50% beginning with the June 30, 2011 valuation.

The actuarial assumptions and methods for financial reporting meet the parameters set forth in Governmental Accounting Standards Board (GASB) Statements No. 25, 43, and 50. The actuarial assumptions and methods for GASB 25 disclosure are the same as for pension funding, except that the GASB 25 amortization payment will be determined based on 30-year level-dollar funding. The Health Insurance funding provisions of the Retirement Code differ from the GASB 43 disclosure requirements. For funding purposes the actuarial liability equals the assets in the health insurance account, and a contribution is determined that will assure the solvency of the account through the third fiscal year following the valuation date. For purposes of GASB 43 disclosure the Health Insurance actuarial liability and normal cost requirements have been determined under the entry age actuarial cost method, with 30-year level dollar funding. (The entry age actuarial cost method meets the GASB 43 parameters for determining actuarial liability and normal cost, and is the cost method specified by the Retirement Code for the PSERS pension plan.)

### **Assets and Membership Data**

The Retirement System reported the individual data for members of the Retirement System as of the valuation date to the actuary. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System.

### **Funding Adequacy**

The valuation results determine that the employer contribution rate for fiscal year 2012/2013 is 12.36%. As of June 30, 2011, the total funded ratio of the plan (for Pensions and Health Insurance combined) is 69.1%, based on the accrued liability and actuarial value of assets calculated under the funding requirements of Section 8328 of the Retirement Code.

### **Financial Results and Membership Data**

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

The report does not take into account any changes in U.S. equity prices and bond yields that have occurred after the valuation date. Taking these into account may significantly change the market and actuarial value of assets shown. The effect of these events on any funded ratios shown, and on Retirement System calculations, is not known. Retirement System funding and financial accounting rules generally prohibit reflection of changes in assets and underlying economic conditions that occur after the valuation date.

Qualified actuaries completed the valuation in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,



Janet H. Cranna, FSA, MAAA, EA  
Principal, Consulting Actuary



Dana Spangher, FSA, MAAA, EA  
Principal, Consulting Actuary



Edward Quinn, MAAA, EA  
Director, Retirement Actuary

JHC/mp  
DOC:PSERS01262012JC-Actuary'sReport.doc

# THE PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM OF PENNSYLVANIA

## TABLE OF CONTENTS

	<u>Table / Exhibit</u>	<u>Page</u>
Executive Summary .....		1
Table 1 — Summary of Results of Actuarial Valuation as of June 30, 2011.....		12
Table 2 — Summary of Sources of Employer Contribution Rate as of June 30, 2011....		13
Table 3 — Determination of Health Insurance Contribution Rate for Fiscal Year 2012/2013.....		14
Table 4 — Summary of Market Value of Plan Assets as of June 30, 2011 .....		15
Table 5 — Derivation of Actuarial Value of Assets as of June 30, 2011.....		16
Table 6 — Analysis of Change in Unfunded Accrued Liability as of June 30, 2011 .....		17
Table 7 — Schedule of Funding Progress — GASB Statements No. 25 and 43 Disclosure .....		18
Table 8a — Schedule of Employer Contributions for Pensions — GASB Statement No. 25 Disclosure .....		19
Table 8b — Schedule of Employer Contributions for Postemployment Benefits Other than Pensions — GASB Statement No. 43 Disclosure.....		20
Table 9 — Solvency Test — Comparative Summary of Accrued Liability and Actuarial Value of Assets .....		21
Table 10 — History and Projection of Contribution Rates and Funded Ratios .....		22
Table 11 — History and Projection of Annuitants, Beneficiaries, Survivor Annuitants and Active Members .....		23
Table 12 — Description of Actuarial Assumptions and Methods .....		24
Table 13 — Summary of Benefit and Contribution Provisions .....		27
Table 14 — Summary of Membership Data as of June 30, 2011.....		32
Exhibit I — Active Membership Data as of June 30, 2011 - Number and Average Annual Salary .....		33
Exhibit II — The Number and Average Annual Annuity as of June 30, 2011 – Retired on Account of Superannuation, Early Retirement and Those in Receipt of Withdrawal Annuities .....		34
Exhibit III — The Number and Average Annual Annuity as of June 30, 2011 – Beneficiaries and Survivor Annuitants.....		35
Exhibit IV — The Number and Average Annual Annuity as of June 30, 2011 – Retired on Account of Disability.....		36
Exhibit V — Annuitant and Beneficiary Membership Data as of June 30, 2011.....		37
Exhibit VI — 10-Year History of Membership Data .....		38
Exhibit VII — Detailed Tabulations of the Data.....		40
Exhibit VIII — Glossary.....		54

## **Executive Summary**

This report presents the actuarial valuation as of June 30, 2011 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2012/2013, which is 12.36%.
- The total funded ratio of the plan determined as of June 30, 2011 under the funding requirements of Section 8328 of the Retirement Code, which is 69.1% based on the accrued liability and the actuarial value of assets for Pensions and Health Insurance as of that date.
- The determination of the actuarial experience as of June 30, 2011, which is a loss of \$216 million.
- Annual disclosures as of June 30, 2011 as required by Statements No. 25, 43, and 50 of the Governmental Accounting Standards Board.

The valuation was completed based upon membership and financial data submitted by the Retirement System. Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are included in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of the PSERS Comprehensive Annual Financial Report (CAFR), and also prepared the trend data schedules included in the Financial Section of the CAFR.

## **Changes Since Last Year**

### **Legislative and Administrative Changes**

The benefit provisions and contribution provisions are summarized in Table 13. There were no legislative or administrative changes since the prior valuation.

### **Actuarial Assumptions and Methods**

The actuarial assumptions and methods are outlined in Table 12. The valuation was completed based upon the following changes in demographic and economic assumptions adopted by the Board of Trustees during the March 11, 2011 Board meeting:

## Demographic Assumptions

- Update the rates of mortality among active members, annuitants, beneficiaries and survivors to reflect recent experience as follows:
  - a. Active Members: RP-2000 Employee Pre-Retirement Male Table set back 3 years and RP-2000 Employee Pre-Retirement Female Table set back 8 years.
  - b. Healthy Annuitants and Dependent Beneficiaries: RP-2000 Combined Healthy Annuitant Tables (Male and Female) with age set back 3 years for both genders.
  - c. Disabled Members: RP-2000 Disabled Male Table set back 7 years and RP-2000 Disabled Female Table set back 3 years.
- Update the rates of withdrawal, disability, and retirement from employment among active members to reflect recent experience.

## Economic Assumptions

- Reduce the interest rate from 8.00% to 7.50%.
- Reduce the rate of inflation from 3.25% to 3.00%.
- Reduce the average rate of increase in annual salaries among active members from 6.00% to 5.50%.
- Reduce the rate of salary growth from 4.00% to 3.50%.

## **Contribution Rates**

The results of the valuation as of June 30, 2011 determine the employer contribution rate for fiscal year 2012/2013. The calculated employer contribution rate for the 2012/2013 fiscal year is 12.36%, and the Board of Trustees certified this rate at their December 9, 2011 meeting.

The average contribution rate payable by the members is 7.40%. The average member contribution rate of 7.40% is a pay-weighted average of member rates that vary based on date of hire and based on Class membership. Effective January 1, 2002, the employee contribution rate for members who elected to have prior school service and intervening military service converted to Class T-D service increased by 1.25% to 7.50%. Anyone who enrolls after July 1, 2001 and

before July 1, 2011 is automatically a member of Class T-D. Any employee who becomes a member after June 30, 2011 would become a Class T-E member or, alternatively, elect to become a Class T-F member. The base contribution rate for Class T-E members is 7.50% of compensation. The base contribution rate for Class T-F members is 10.30% of compensation. Class T-E and Class T-F members are subject to a “shared-risk” employee contribution rate.

**Reasons for Change in the Rate Calculated by the Actuary**

The employer contribution rate calculated by the actuary increased from 8.65% for fiscal year 2011/2012 to 12.36% for fiscal year 2012/2013. The reconciliation of the employer contribution rates by source is as follows:

• FY 2011/2012 Act 120 final rate	8.65%
• Deferral of FY 2012 pension contribution due to Act 120 3.0% collar	<u>10.27</u>
• FY 2011/2012 actual rate	18.92%
• Decrease due to change in normal rate	(0.22)
• Net decrease due to payroll growth and liability experience	(0.21)
• Increase due to actuarial loss on assets	0.59
• Increase due to Act 46 rate cap	0.18
• Increase due to assumption changes	3.04
• Increase due to change in health insurance contribution rate	0.21
• Deferral of FY 2013 pension contribution due to Act 120 3.5% collar	<u>(10.15)</u>
• FY 2012/2013 employer contribution rate	12.36%

## Summary of Principal Results

Summarized below are the principal financial results for the Public School Employees' Retirement System based upon the actuarial valuation as of June 30, 2011. Comparable results from the June 30, 2010 valuation are also shown.

Item	June 30, 2011	June 30, 2010
<b>Demographics</b>		
Active Members		
• Number	279,152	282,041
• Average Annual Pay	\$ 46,247	\$ 45,344
Annuitants		
• Number	194,622	184,934
• Average Annual Benefit Payment	\$ 23,897	\$ 23,466
<b>Contribution Rates (as a Percentage of Payroll)</b>		
	(Fiscal Year 2012/2013)	(Fiscal Year 2011/2012)
Employer Contribution Rate:		
• Total Pension Rate Calculated by Actuary	21.65%	18.27%
• Act 120 Employer Pension Rate After Application of Collar	11.50	8.00
• Health Insurance Contribution Rate	<u>0.86</u>	<u>0.65</u>
• Total Contribution Rate	12.36%	8.65%
• Total Contribution Rate Certified by Board	12.36%	8.65%
Member Average Contribution Rate		
• Total Rate	<u>7.40</u>	<u>7.37</u>
• Total Rate	19.76%	16.02%
<b>Actuarial Funded Status*</b>		
• Accrued Liability	\$ 85,751.6 Mil	\$ 79,122.3 Mil
• Actuarial Value of Assets	<u>59,252.4</u>	<u>59,423.7</u>
• Unfunded Accrued Liability	\$ 26,499.2	\$ 19,698.6
• Funded Ratio	69.1%	75.1%
*Pensions and Health Insurance combined		

## Five-Year History of Principal Financial Results

### Five-Year History of Contribution Rates (As a % of Payroll)

Fiscal Year	Member Contributions	Employer Contributions				
		Normal Cost	Unfunded Accrued Liability	Health Insurance	Preliminary Employer Contribution	Final Employer Contribution*
2012/2013	7.40%	8.66%	12.99%	0.86%	22.51%	12.36%**
2011/2012	7.37	8.12	10.15	0.65	18.92	8.65**
2010/2011	7.34	8.08	(0.50)	0.64	8.22	5.64 <sup>∅</sup>
2009/2010	7.32	7.35	(3.72)	0.78	4.41	4.78 <sup>∅∅</sup>
2008/2009	7.29	6.68	(3.37)	0.76	4.07	4.76 <sup>∅∅</sup>

\* Certified by the Board.

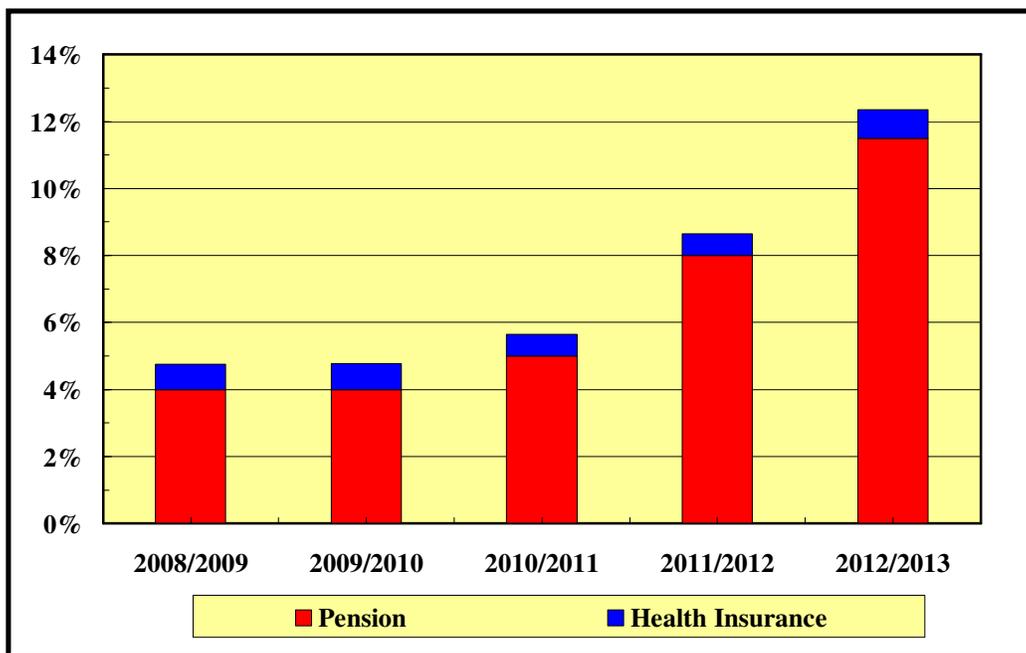
\*\* Reflects Act 120 Pension Collar.

<sup>∅</sup> Reflects Act 46 Rate Cap.

<sup>∅∅</sup> Reflects Act 40 Pension Floor.

The following chart shows a five-year history of employer contribution rates:

### Five-Year History of Employer Contribution Rates



## Funded Ratio

The financing objective of the Retirement System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method; and
- Liquidate the unfunded accrued liability based on level percentage of pay amortization schedules required by the Retirement Code as amended by Act 2010-120, i.e., a schedule of 24 years for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability will be funded over 10 years.
- As directed by Act 2010-120, use pension rate collars to moderate the rise of annual employer pension contribution rates to reach the full actuarially determined contribution funding level in a budgetary sound manner and within a financially responsible period of time.

The total contribution rate of 22.51% of payroll payable by employers, when taken together with the contributions payable by the members, current assets, and expected future asset returns, is sufficient to achieve the financing objective. However, Act 2010-120 limits the contribution for FY 2012/2013 to 12.36% of payroll. This has the effect of deferring part of the FY 2012/2013 contribution to future years.

The Retirement System's total funded ratio on this funding basis is measured by comparing the actuarial value of assets (based on a phased-in 10-year moving average market value) with the accrued liability. The accrued liability for pensions is the present value of benefits accumulated to date under the Retirement System's funding method and reflects future pay increases for active employees. The accrued liability for Health Insurance equals the assets in the Health Insurance account.

On this basis, the Retirement System's total funded ratio (for Pensions and Health Insurance combined) is 69.1% as of June 30, 2011. This funded ratio is based on an actuarial value of assets of \$59.3 billion and an accrued liability of \$85.8 billion. The funded ratio for Pensions alone is also 69.1% as of June 30, 2011, based on an actuarial value of assets of \$59.1 billion, and an accrued liability of \$85.6 billion.

### **Reasons for Change in the Total Funded Ratio**

The total funded ratio decreased from 75.1% as of June 30, 2010 to 69.1% as of June 30, 2011. This decrease is primarily due to the actuarial value of assets loss that occurred during the year, an actual fiscal year 2011 employer contribution which was less than what was recommended due to the enactment of Act 46 and changes to the demographic and economic assumptions used to value the System's liability. There was also a net actuarial experience gain.

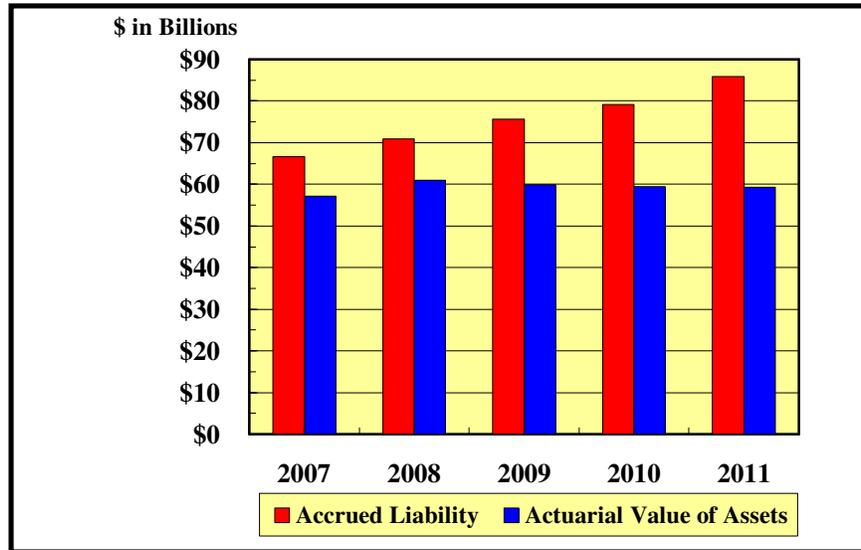
### **Five-Year History of Total Funded Ratio\*** (\$ Amounts in Millions)

Valuation as of June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2011	\$ 85,751.6	\$ 59,252.4	\$ 26,499.2	69.1%
2010	79,122.3	59,423.7	19,698.6	75.1
2009	75,625.9	59,886.7	15,739.2	79.2
2008	70,941.4	61,017.9	9,923.5	86.0
2007	66,593.1	57,155.1	9,438.0	85.8

\* For Pensions and Health Insurance (under the funding provisions of the Retirement Code)

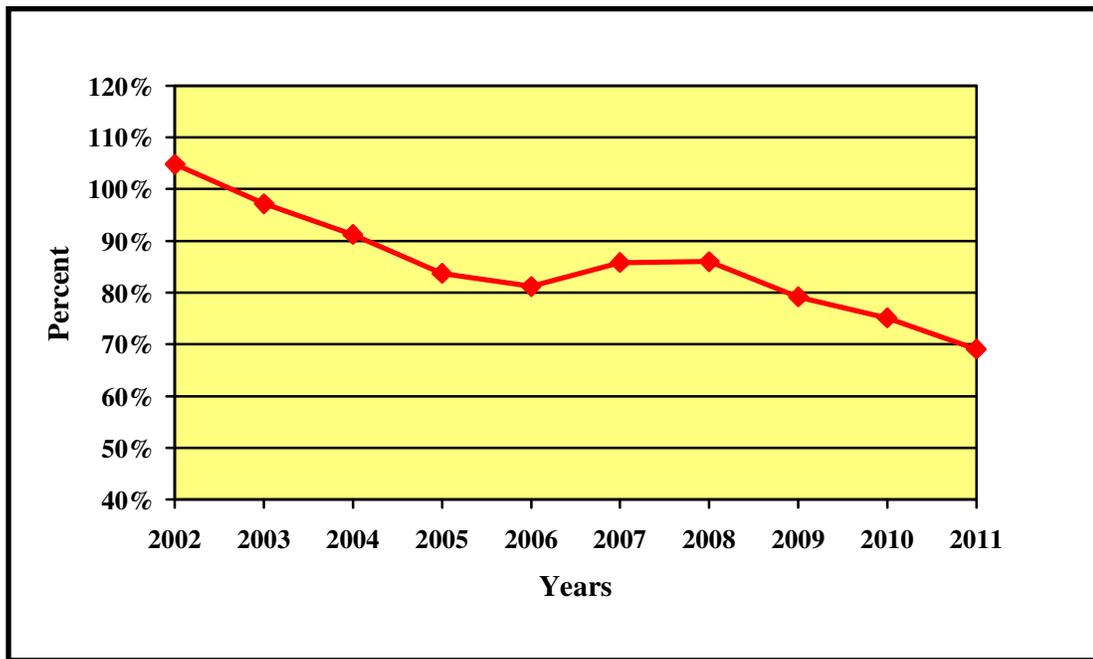
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

**Five-Year History of Accrued Liability and Actuarial Value of Assets**



The following chart shows a ten-year history of the total funded ratio for Pensions and Health Insurance:

**Ten-Year History of Total Funded Ratio  
(2002 – 2011)**



## **GASB No. 25 Disclosure**

Statement No. 25 of the Governmental Accounting Standards Board (GASB) established reporting standards for the annual financial reports of defined benefit pension plans. The Retirement System complied with Statement No. 25 beginning with the June 30, 1996 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the Retirement System's financial statements.

The "schedule of funding progress" shows historical trend information about the Retirement System's actuarial value of pension assets, the actuarial accrued liability for pensions and the unfunded actuarial accrued liability for pensions. The actuarial funded ratio for pensions is measured by comparing the actuarial value of pension assets based on a 10-year moving average market value (a 5-year moving average market value prior to June 30, 2010) with the accrued liability for pensions. The accrued liability is the present value of pension benefits accumulated to date under the Retirement System's funding method and reflects future pay increases for active employees. On this basis, the Retirement System's funded ratio for pensions is 69.1% as of June 30, 2011. This funded ratio is based on an actuarial value of pension assets of \$59.1 billion and an accrued liability for pensions of \$85.6 billion. See Table 7 for more detail.

The schedule of employer contributions shows historical trend information about the GASB Annual Required Contribution (ARC) for pensions, and the percentage of the ARC contributed to the Retirement System. The pension contribution requirements of the Retirement Code differ from the GASB disclosure requirements. As a result, there may be different determinations of contribution requirements for GASB accounting purposes and for State funding purposes. For GASB accounting purposes, the ARC equals the employer normal cost for pensions plus an amount that will amortize the unfunded actuarial accrued liability for pensions over 30 years. Although the employer normal cost for GASB accounting equals the PSERS normal cost for funding, Section 8328 of the Retirement Code specifies different amortization periods for different portions of the unfunded accrued liability, as well as a collar on the employer pension rate. Therefore, the resulting single amortization period may be any number of years. Table 8a presents the GASB 25 schedule of employer contributions.

## **GASB No. 43 Disclosure**

GASB Statement No. 43 established reporting standards for the annual financial reports of postemployment benefit plans other than pension plans, and these reporting requirements apply to the PSERS health insurance premium assistance plan. The Retirement System complied with Statement No. 43 beginning with the June 30, 2006 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the Retirement System's financial statements.

The health insurance liability and funding provisions of the Retirement Code differ from the GASB disclosure requirements. As a result, there are different determinations of actuarial liability and contribution requirements for GASB accounting purposes and for State funding purposes. For purposes of funding, the actuarial liability equals the assets in the health insurance account, and the contribution required is the amount necessary to establish reserves sufficient to provide premium assistance payments to all participating eligible annuitants during the fiscal year that immediately follows the year the employer contribution is made. For GASB accounting purposes, the actuarial liability has been determined under the entry age actuarial cost method, and the Annual Required Contribution (ARC) is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years. (The entry age actuarial cost method was selected for this calculation because it meets the GASB parameters for determining actuarial liability and normal cost, and is the cost method specified by the Retirement Code for the PSERS pension plan.)

The GASB 43 schedule of funding progress, presented in Table 7, shows that as of June 30, 2011, the health insurance assets were \$111,258,000, measured on a market value basis, while the GASB 43 health insurance liabilities were \$1,339,444,000, resulting in a funded ratio of 8.3%.

The GASB 43 schedule of employer contributions first applies to fiscal year 2006/2007, and is presented in Table 8b.

## Rate of Return

The investment return of the trust fund (i.e. total return including both realized and unrealized gains and losses) for fiscal years 2005/2006 through 2010/2011 is shown in the table below. The return based on the actuarial value of assets used for determining annual contribution rates is also shown.

The rate of return on market value reflects the investment earnings on the market value of assets from the beginning of the fiscal year to the end of the fiscal year. The actuarial value of assets is the asset recognized for valuation purposes. The actuarial value of assets are based on a smoothed market value that spreads the difference between the actual and expected return over a period of ten years. The rate of return on the actuarial value of assets is a measure of the increase in the actuarial value of assets from the beginning of the fiscal year to the end of the fiscal year.

Fiscal Year	Rate of Return Based on	
	Market Value*	Actuarial Value**
2010/2011	20.4%	6.0%
2009/2010	14.6	3.1
2008/2009	-26.5	3.5
2007/2008	-2.8	12.4
2006/2007	22.9	13.9
2005/2006	15.3	7.9

\* Market Value Rate of return provided by Wilshire Associates Incorporated, PSERS investment consultant.

\*\* Prior to fiscal year 2010/2011, the actuarial value of assets are based on a smoothed market value that spreads the difference between the actual and expected return over a period of five years.

**TABLE 1**

**SUMMARY OF RESULTS OF ACTUARIAL VALUATION  
AS OF JUNE 30, 2011  
(\$ Amounts in Thousands)**

Item	June 30, 2011	June 30, 2010
<b>Member Data</b>		
1. Number of Members		
a) Active Members	279,152	282,041
b) Inactive Members and Vesteas	115,102	111,931
c) Annuitants, Beneficiaries and Survivor Annuitants	194,622	184,934
d) Total	<u>588,876</u>	<u>578,906</u>
2. Annualized Salaries (\$ Amounts in Thousands)	\$ 12,910,043	\$ 12,788,847
3. Annual Annuities (\$ Amounts in Thousands)	\$ 4,650,798	\$ 4,339,639
<b>Valuation Results</b>		
4. Present Value of Future Pension Benefits		
a) Active Members	\$ 60,127,465	\$ 57,927,025
b) Inactive Members and Vesteas	1,095,894	1,261,485
c) Annuitants, Beneficiaries and Survivor Annuitants	45,648,780	40,284,383
d) Total	<u>\$ 106,872,139</u>	<u>\$ 99,472,893</u>
5. Present Value of Future Pension Normal Cost		
a) Active Members	\$ 9,923,829	\$ 9,960,432
b) Employer	11,307,927	10,507,033
c) Total	<u>\$ 21,231,756</u>	<u>\$ 20,467,465</u>
6. Pension Accrued Liability		
a) Active Members (4a) - (5c)	\$ 38,895,709	\$ 37,459,560
b) Inactive Members and Vesteas	1,095,894	1,261,485
c) Annuitants, Beneficiaries and Survivor Annuitants	45,648,780	40,284,383
d) Total	<u>\$ 85,640,383</u>	<u>\$ 79,005,428</u>
7. Health Insurance Assets for Premium Assistance	\$ 111,258	\$ 116,831
8. Total Accrued Liability for Funding (6) + (7)	\$ 85,751,641	\$ 79,122,259
9. Actuarial Value of Assets	\$ 59,252,389	\$ 59,423,679
10. Funded Status (9) / (8)	69.1 %	75.1 %
11. Unfunded Accrued Liability (8) - (9)	\$ 26,499,252	\$ 19,698,580
12. Total Normal Cost Rate	16.06 %	15.49 %
13. Member Contribution Rate	7.40 %	7.37 %
14. Employer Normal Cost Rate (12) - (13)	8.66 %	8.12 %
<b>Employer Annual Funding Requirement</b>		
15. Employer Contribution Rate Calculated by Actuary	<b>Fiscal 2012/2013</b>	<b>Fiscal 2011/2012</b>
a) Normal	8.66 %	8.12 %
b) Unfunded Accrued Liability	<u>12.99</u>	<u>10.15</u>
c) Preliminary Pension Rate	21.65 %	18.27 %
d) Act 120 Employer Pension Rate Collar	11.50 %	8.00 %
e) Health Insurance	<u>0.86</u>	<u>0.65</u>
f) Total Rate	12.36 %	8.65 %

**TABLE 2**

**SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE  
AS OF JUNE 30, 2011  
(\$ Amounts in Thousands)**

	Funding Period (Years)	Beginning July 1	Initial Liability	7/1/2011 Outstanding Balance	Annual Payment Amount	Percent *
1. Amortization of:						
a) Act 120 Fresh Start Unfunded Accrued Liability and Asset Method Change	24	2011	\$ 16,279,283	\$ 17,649,372	\$ 1,228,731	8.59 %
b) 2010 Experience	24	2011	3,419,297	3,692,841	257,092	1.80 %
c) 2011 Experience	24	2012	564,642	564,642	40,635	0.28 %
d) 2011 Assumption Changes	24	2012	4,592,397	<u>4,592,397</u>	<u>330,499</u>	<u>2.32 %</u>
Total Amortization Payments				\$ 26,499,252	\$ 1,856,957	12.99 %
2. Employer Normal Cost Rate						<u>8.66 %</u>
3. Preliminary Pension Rate (1) + (2)						21.65 %
4. Act 120 Fiscal Year 2013 Employer Pension Rate Collar						11.50 %
5. Health Insurance Rate						<u>0.86 %</u>
6. Final Total Employer Contribution Rate Calculated by Actuary: Minimum of [(3) and (4)] + (5)						12.36 %

\* Based on Estimated Employer Payroll for Fiscal Year Ending 2013 of \$ 14,297,000.

**TABLE 3**

**DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE  
FOR FISCAL YEAR 2012/2013**

(\$ Amounts in Thousands)

Item			
1. June 30, 2011 Balance in Health Insurance Account			\$ 111,258
2. Estimated Fiscal 2011/2012 Contribution			
(a) Contribution Rate Certified in 2010 Valuation			0.65%
(b) Estimated Fiscal 2011/2012 payroll			\$ 14,112,000
(c) Estimated Contribution = (a) x (b)			\$ 91,728
3. Estimated Number of Annuitants who:			
	Are Eligible	Elect Coverage	
(a) Fiscal 2011/2012	131,400	86,724	
(b) Fiscal 2012/2013	133,700	88,242	
(c) Fiscal 2013/2014	136,000	89,760	
4. Estimated Disbursements:	Administration	Assistance	Total
(a) Fiscal 2011/2012	\$ 2,149	\$ 104,069	\$ 106,218
(b) Fiscal 2012/2013	2,317	105,890	108,207
(c) Fiscal 2013/2014	2,410	107,712	110,122
(d) Total	\$ 6,876	\$ 317,671	\$ 324,547
5. Required Fiscal 2012/2013 Contribution			\$ 121,561
(4d) - (1) -(2c)			
6. Required Health Insurance Contribution Rate			
(a) Estimated 2012/2013 Payroll			\$ 14,297,000
(b) Required Health Insurance Contribution Rate (5) / (6a)			0.86%
(rounded up)			

Notes:

1. Current estimates of fiscal 2011/2012 membership payroll and administrative expenses, and of fiscal 2012/2013 administrative expenses, were provided by PSERS staff.
2. 66% of eligible annuitants are assumed to elect coverage.
3. Premium Assistance payments equal \$100 per month per eligible annuitant.

**TABLE 4**

**SUMMARY OF MARKET VALUE OF PLAN ASSETS**

**AS OF JUNE 30, 2011**

(\$ Amounts in Thousands)

<b>Market Value</b>	
1. Market Value of Assets as of June 30, 2010	\$ 45,715,306
2. Contributions During Fiscal 2010/2011	1,790,460
3. Disbursements During Fiscal 2010/2011	5,402,280
4. Investment Return During Fiscal 2010/2011	
a) Investment Return (Net of Investment Expenses)	\$ 9,246,782
b) Administrative Expenses	<u>39,016</u>
c) Investment Return After Expenses (a) - (b)	\$ 9,207,766
5. Market Value of Assets as of June 30, 2011 (1) + (2) - (3) + (4c)	\$ 51,311,252
6. Rate of Return (per Wilshire)	20.37 %
<b>Asset Allocation by Account</b>	
1. Members' Savings Account	\$ 12,242,308
2. Annuity Reserve Account	45,648,780
3. State Accumulation Account	(6,691,094)
4. Health Insurance Account	<u>111,258</u>
5. Total (1) + (2) + (3) + (4)	\$ 51,311,252

**TABLE 5**

**DERIVATION OF ACTUARIAL VALUE OF ASSETS  
AS OF JUNE 30, 2011\***  
(\$ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2011					\$ 51,311,252
2. Determination of Deferred Gain (Loss)					
	<u>Return on Assets</u>				
<u>Fiscal</u> <u>Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Difference</u>	<u>% Deferred</u> <sup>#</sup>	<u>Deferred</u> <u>Amount</u>
2010/2011	\$ 9,207,766	\$ 4,609,422	\$ 4,598,344	90.00%	\$ 4,138,510
2009/2010	6,100,499	4,651,504	1,448,995	80.00%	1,159,196
2008/2009	(16,237,298)	4,900,688	(21,137,986)	62.22%	(13,152,525)
2007/2008	(1,816,980)	4,728,472	(6,545,452)	45.00%	(2,945,453)
2006/2007	12,658,871	4,359,054	8,299,817	28.57%	2,371,376
2005/2006	7,901,068	4,242,878	3,658,190	13.33%	<u>487,759</u>
					\$ (7,941,137)
3. Actuarial Value of Assets (1) - (2)					\$ 59,252,389
4. Actuarial Rate of Return **					5.97%

\* The amounts reported include assets for both Pension and Health Insurance

\*\* The actuarial rate of return is the investment return based on the change in the actuarial value of assets from the June 30, 2010 valuation to the June 30, 2011 valuation.

# The percentage amounts shown are rounded. The corresponding Deferred Amounts reflect the use of unrounded percentage amounts.

**TABLE 6****ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY****AS OF JUNE 30, 2011**

(\$ Amounts in Thousands)\*

Item	Amount
1. Unfunded Accrued Liability at June 30, 2010	\$ 19,698,580
2. Interest Credit to June 30, 2011	1,575,886
3. Contributions Toward Unfunded Accrued Liability	<u>(67,747)</u>
4. Expected Unfunded Accrued Liability at June 30, 2011 (1) + (2) - (3)	\$ 21,342,213
5. Actual Unfunded Accrued Liability at June 30, 2011	<u>\$ 26,499,252</u>
6. Increase (Decrease) from Expected (5) - (4)	\$ 5,157,039
7. Reasons for Increase (Decrease)	
(a) Experience Losses (Gains)	
(i) Loss from Investment Return on Actuarial Value of Assets	\$ 1,168,892
(ii) Loss from New Entrants and Pickups	231,550
(iii) Gain from Salary Increases Less than Expected	(85,970)
(iv) Loss from Mortality Experience	101,535
(v) Gain from Vested Termination Experience (Retirement/Disability/Termination)	(893,664)
(vi) Gain from Non-vested Termination Experience	(237,667)
(vii) Gain from Data/Miscellaneous	<u>(68,592)</u>
Subtotal	\$ 216,084
(b) Change due to Act 46 5% Cap on FY 2011 Pension Contribution	348,558
(c) Change in Assumptions	<u>4,592,397</u>
(d) Grand Total	\$ 5,157,039

\*The amounts reported include assets and liabilities for Pensions only.

**TABLE 7**

**SCHEDULE OF FUNDING PROGRESS FOR PENSIONS\***  
**GASB STATEMENT NO. 25 DISCLOSURE**  
(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2011	\$ 59,141,131	\$ 85,640,383	\$ 26,499,252	69.1 %	\$ 12,910,043	205.3 %
2010	59,306,848	79,005,428	19,698,580	75.1	12,788,847	154.0
2009	59,781,575	75,520,736	15,739,161	79.2	12,524,593	125.7
2008	60,922,157	70,845,637	9,923,480	86.0	11,921,469	83.2
2007	57,057,838	66,495,870	9,438,032	85.8	11,410,257	82.7
2006	52,464,726	64,627,361	12,162,635	81.2	11,419,049	106.5

\* The amounts reported above include assets and liabilities for Pensions.

**SCHEDULE OF FUNDING PROGRESS FOR  
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS\***  
**GASB STATEMENT NO. 43 DISCLOSURE**  
(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2011	\$ 111,258	\$ 1,339,444	\$ 1,228,186	8.3 %	\$ 12,910,043	9.5 %
2010	116,831	1,162,219	1,045,388	10.1	12,788,847	8.2
2009	105,114	1,159,055	1,053,941	9.1	12,524,593	8.4
2008	95,785	1,133,011	1,037,226	8.5	11,921,469	8.7
2007	97,292	1,058,092	960,800	9.2	11,410,257	8.4
2006	92,777	1,056,154	963,377	8.8	11,419,049	8.4

\* The amounts reported above include assets and liabilities for Health Insurance Premium Assistance. The health insurance liabilities for GASB 43 disclosure have been calculated under the entry age normal cost method, which provides liabilities that differ from those determined under the funding requirements of the Retirement Code.

**TABLE 8a**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR PENSIONS  
GASB STATEMENT NO. 25 DISCLOSURE**

(\$ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2011	\$ 2,436,602	\$ 647,000	27 %
2010	1,928,278	527,212	27
2009	1,761,295	503,227	29
2008	1,852,238	753,532	41
2007	1,708,821	659,545	39
2006	1,328,373	456,878	34

The Annual Required Contribution (ARC) presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (i.e., the ARC for the fiscal year ended June 30, 2011 was determined by the valuation completed as of June 30, 2009 which was based on an 8.00% interest rate).

Additional information as of the latest actuarial valuation follows:

Valuation Date: 6/30/2011  
Actuarial Cost Method: Entry Age  
Amortization Method: Level Dollar, Open  
Remaining Amortization Period: 30 Years  
Asset Valuation Method: 10 Year Smoothed Market

Actuarial Assumptions:

- Investment Rate of Return \* 7.50%  
- Projected Salaried Increases \* 5.50%

\* Includes Inflation at: 3.00%

**TABLE 8b**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR  
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS  
GASB STATEMENT NO. 43 DISCLOSURE  
(\$ Amounts in Thousands)**

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2011	\$ 119,320	\$ 88,796	74 %
2010	117,187	102,703	88
2009	109,531	92,493	84
2008	101,352	81,317	80
2007	94,970	86,763	91

The Annual Required Contribution (ARC) beginning with the fiscal year ended June 30, 2009 was determined as part of the actuarial valuation as of two years prior to the date indicated (i.e., the ARC for the fiscal year ended June 30, 2011 was determined by the valuation completed as of June 30, 2009, which was based on an 8.00% interest rate). Prior to the fiscal year which ended June 30, 2009, the ARC was determined as part of the actuarial valuation as of one year prior to the dates indicated.

Additional information as of the latest actuarial valuation follows:

Valuation Date: 6/30/2011  
Actuarial Cost Method: Entry Age  
Amortization Method: Level Dollar, Open  
Remaining Amortization Period: 30 Years  
Asset Valuation Method: Market

Actuarial Assumptions:  
- Investment Rate of Return \* 7.50%  
- Projected Salaried Increases \* 5.50%

\* Includes Inflation at: 3.00%

**TABLE 9**

**SOLVENCY TEST  
COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND  
ACTUARIAL VALUE OF ASSETS**  
(\$ Amounts in Thousands)

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2011	\$ 12,242,308	\$ 45,648,780	\$ 27,749,295	\$ 59,141,131	100 %	100 %	5 %
2010	11,850,031	40,284,383	26,871,014	59,306,848	100	100	27
2009	11,087,345	37,112,318	27,321,073	59,781,575	100	100	42
2008	10,532,683	34,617,953	25,695,001	60,922,157	100	100	61
2007	10,183,433	31,603,788	24,708,649	57,057,838	100	100	62
2006	9,571,668	29,117,164	25,938,529	52,464,726	100	100	53

**POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS**

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2011	\$ 0	\$ 909,076	\$ 430,368	\$ 111,258	N/A	12 %	0 %
2010	0	767,587	394,632	116,831	N/A	15	0
2009	0	759,891	399,164	105,114	N/A	14	0
2008	0	749,070	383,941	95,785	N/A	13	0
2007	0	684,677	373,415	97,292	N/A	14	0
2006	0	684,435	371,719	92,777	N/A	14	0

**TABLE 10****HISTORY AND PROJECTION OF CONTRIBUTION RATES AND FUNDED RATIOS<sup>1</sup>**

Fiscal Year Ending June	Appropriation Payroll (thousands)	Contribution Rates <sup>2</sup>							Funded Ratio
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension	Employer Health Insurance	Total Employer	
2000	\$ 8,939,598	5.72 %	6.40 %	(2.04) %	4.36 %	4.36 %	0.25 %	4.61 %	123.8 %
2001	9,414,884	5.77	6.29	(4.65)	1.64	1.64	0.30	1.94	114.4
2002 <sup>3</sup>	9,378,944	6.43	5.63	(6.05)	(0.42)	0.00	1.09	1.09	104.8
2003 <sup>4</sup>	9,652,881	7.10	7.20	(10.03)	1.00	0.18	0.97	1.15	97.2
2004	10,030,705	7.08	7.25	(4.27)	2.98	2.98	0.79	3.77	91.2
2005 <sup>5</sup>	11,062,589	7.12	7.48	(7.10)	0.38	4.00	0.23	4.23	83.7
2006	11,505,093	7.16	7.61	(4.28)	3.33	4.00	0.69	4.69	81.2
2007 <sup>6</sup>	11,821,951	7.21	6.62	(0.95)	5.67	5.72	0.74	6.46	85.8
2008	12,881,244	7.25	6.68	(0.24)	6.44	6.44	0.69	7.13	86.0
2009	12,500,000	7.29	6.68	(3.37)	3.31	4.00	0.76	4.76	79.2
2010 <sup>7</sup>	12,899,000	7.32	7.35	(3.72)	3.63	4.00	0.78	4.78	75.1
2011 <sup>7,8</sup>	13,510,000	7.34	8.08	(0.50)	7.58	5.00	0.64	5.64	<b>69.1</b>
2012 <sup>9</sup>	14,112,000	7.37	8.12	10.15	18.27	8.00	0.65	8.65	66.3
<b>2013<sup>9,10</sup></b>	<b>14,297,000</b>	<b>7.40</b>	<b>8.66</b>	<b>12.99</b>	<b>21.65</b>	<b>11.50</b>	<b>0.86</b>	<b>12.36</b>	63.9
2014 <sup>9</sup>	14,746,607	7.42	8.34	14.37	22.71	16.00	0.75	16.75	62.2
2015 <sup>9</sup>	15,137,573	7.43	8.06	15.81	23.87	20.50	0.75	21.25	61.1
2016	15,553,058	7.44	7.80	17.02	24.82	24.82	0.74	25.56	60.5
2017	15,998,404	7.45	7.56	17.98	25.54	25.54	0.72	26.26	59.7
2018	16,473,589	7.46	7.35	18.74	26.09	26.09	0.71	26.80	59.4
2019	16,975,059	7.47	7.14	19.69	26.83	26.83	0.70	27.53	61.0
2020	17,499,806	7.47	6.95	20.41	27.36	27.36	0.68	28.04	62.6
2021	18,049,475	7.48	6.75	20.35	27.10	27.10	0.66	27.76	63.9
2022	18,625,435	7.48	6.58	20.35	26.93	26.93	0.65	27.58	65.4
2023	19,221,445	7.48	6.40	20.52	26.92	26.92	0.63	27.55	66.9

1. The projection of contribution rates is based on the assumption that there are no changes in demographic assumptions, no changes in benefit provisions, and no actuarial gains or losses other than gains or losses on the actuarial value of assets that result from recognizing currently deferred gains or losses on the market value of assets.
2. In general, the Preliminary Employer Pension Rate equals the sum of the rates for the Employer Normal Cost and the Unfunded Liability; and the Final Employer Pension Rate is the greater of the Preliminary Pension Rate and any Pension Rate Floor or Collar stated in the Retirement Code. The Total Employer Rate is the sum of the Final Employer Pension Rate and the Employer Health Insurance Rate.
3. For fiscal years ending on or before June 30, 2002, there was no floor specified in the Retirement Code, but the Final Employer Pension Rate could not be less than 0%, since money can only be removed from the trust for purposes allowed by the Retirement Code.
4. Act 2002-38 amended the Retirement Code to place a permanent 1% floor on the Employer Pension Rate, but also provided that the Total Employer Rate for the year ending June 30, 2003 could not exceed 1.15%, resulting in a 0.18% Final Employer Pension Rate (the Total Employer Rate of 1.15% minus the 0.97% Employer Health Insurance Rate).
5. Act 2003-40 amended the Retirement Code to increase the Employer Pension Rate Floor from 1% to 4%.
6. Revised actuarial assumptions based on a five-year experience review ending June 30, 2005 were used to determine the contributions for the fiscal year ending June 30, 2007. Since the benefit changes under Act 2001-9 had not been in effect throughout the entire period covered by the study the Board decided, at its December 2005 meeting, to delay making any changes to the retirement rate assumptions until further data became available. The 5.72% Final Employer Pension Rate equals the 6.46% Total Employer Rate certified by the Board at that meeting, minus the 0.74% Employer Health Insurance Rate. The 5.67% Preliminary Employer Pension Rate equals the sum of the Employer Normal Cost and Unfunded Liability rates. The Normal Cost and Unfunded Liability rates were calculated by the actuary in January 2006, based on the package of assumptions adopted at the December 2005 meeting.
7. The Board at its January 2009 meeting adopted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% thereafter.
8. Act 2010-46 recertified the fiscal year ending June 30, 2011 pension rate from 7.58% to 5.00%.
9. The Final Employer Pension rate is limited by the Act 2010-120 pension rate collar.
10. Revised actuarial assumptions based on a five-year experience review ending June 30, 2010 were used to determine the contributions for the fiscal year ending June 30, 2013.

**TABLE 11**

**HISTORY AND PROJECTION OF  
ANNUITANTS, BENEFICIARIES, SURVIVOR ANNUITANTS AND  
ACTIVE MEMBERS**

Valuation as of June 30	New Annuitants During the Year*	Annuitant Deaths During the Year	Annuitants at End of Year	Beneficiaries and Survivor Annuitants at End of Year	Total Annuitants, Beneficiaries and Survivor Annuitants	Active Members
2002			134,300	7,114	141,414	242,616
2003			138,383	7,310	145,693	246,700
2004			143,997	7,555	151,552	247,901
2005			148,727	7,792	156,519	255,465
2006			153,757	8,056	161,813	263,350
2007			159,760	8,266	168,026	264,023
2008			165,091	8,449	173,540	272,690
2009			169,919	8,044	177,963	279,701
2010			176,210	8,724	184,934	282,041
<b>2011</b>			<b>183,665</b>	<b>10,957</b>	<b>194,622</b>	<b>279,152</b>
2012	15,440	4,800	194,305	9,874	204,179	279,152
2013	12,961	5,001	202,265	10,341	212,606	279,152
2014	13,063	5,172	210,156	10,769	220,925	279,152
2015	12,885	5,343	217,698	11,172	228,870	279,152
2016	12,502	5,537	224,663	11,556	236,219	279,152
2017	12,047	5,728	230,982	11,918	242,900	279,152
2018	11,619	5,935	236,666	12,278	248,944	279,152
2019	11,651	6,143	242,174	12,640	254,814	279,152
2020	11,620	6,342	247,452	12,995	260,447	279,152
2021	11,665	6,572	252,545	13,353	265,898	279,152

\* The number for the first year of the projection reflects the assumption that all Active members age 74 and above, and that all vested inactive members who have reached superannuation age retire immediately.

**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS****ASSUMPTIONS**

**Interest Rate:** 7.50% per annum, compounded annually (adopted as of June 30, 2011). The components are 3.00% for inflation and 4.50% for the real rate of return. Actuarial equivalent benefits are determined based on 4% (since 1960).

**Separation from Service:** Illustrative rates of assumed separation from service are shown in the following table (adopted as of June 30, 2011).

Age	Annual Rate of:						
	Non-Vested Withdrawal	Vested Withdrawal*		Death	Disability	Early Retirement**	Superannuation Retirement
		Less Than 10 Years of Service	10 or More Years of Service				
<b>MALES</b>							
25	12.50%	5.50%	2.00%	.037%	.024%		
30	10.50	3.20	2.00	.038	.024		
35	11.00	3.00	1.50	.056	.100		
40	13.00	3.50	1.25	.090	.180		
45	13.00	3.50	1.25	.121	.180		25.00%
50	13.00	3.50	1.70	.173	.280		25.00
55	11.00	3.50	3.00	.245	.430	15.00%	30.00
60	10.50	3.50	4.50	.363	.580	12.00	28.00
65				.592	.100		20.00
69				.810	.100		18.00
<b>FEMALES</b>							
25	13.00%	8.50%	5.00%	.018%	.030%		
30	13.00	6.50	4.00	.019	.040		
35	13.00	5.50	3.00	.022	.060		
40	10.90	4.50	1.50	.035	.100		
45	10.90	4.00	1.50	.055	.150		30.00%
50	10.90	3.75	1.75	.085	.200		30.00
55	10.90	3.75	3.00	.133	.380	15.00%	30.00
60	10.90	4.50	5.50	.197	.380	15.00	30.00
65				.301	.130		25.00
69				.428	.130		20.00

\* Vested Withdrawal – At least 5 years service but not eligible for Early or Superannuation retirement.

\*\* Early Retirement – Age 55 with 25 years service, but not eligible for Superannuation retirement.

**Death after Retirement:** The RP-2000 Combined Healthy Annuitant Tables (Male and Female) with age set back 3 years for both genders for healthy annuitants and for dependent beneficiaries. The RP-2000 Combined Disabled Tables (Male and Female) with age set back 7 years for males and set back 3 years for females for disabled annuitants. (A unisex table based on the RP-2000 Combined Healthy Annuitant Tables (Male and Female) with age set back 3 years for both genders assuming the population consists of 25% males and 75% females is used to determine actuarial equivalent benefits.)

**TABLE 12**

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**

(Continued)

**Salary Increase:** Effective average of 5.50% per annum, compounded annually (adopted as of June 30, 2011). The components are 3.00% for inflation, 1% for real wage growth and 1.5% for merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	10.75%
30	8.25
40	6.25
50	4.25
55	3.75
60	3.75
65	3.75
70	3.75

**MISCELLANEOUS**

**Option 4 Elections:** 100% of members are assumed to elect a refund of contributions and a reduced annuity.

**Withdrawal Annuity:** 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

**Health Insurance**

**Elections:** 66% of eligible retirees are assumed to elect premium assistance.

**Administrative Expenses:** Assumed equal to 2% of contributions made during the year.

**METHODS**

**Calculations:** The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system, and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

**Asset Valuation Method:** A ten-year moving market average (five-year moving market average prior to June 30, 2010) value of assets that recognizes the 7.50% (8.00% prior to June 30, 2011, 8.25% prior to June 30, 2009, and 8.50% prior to June 30, 2008) actuarial expected investment return immediately and spreads the difference between the actual return on the market value of assets and the expected return on the actuarial value of assets over a period of ten years. The averaging period is being phased-in from fiscal year 2006.

## TABLE 12

### DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

(Continued)

**Actuarial Cost Method for Pension Funding:** Entry Age Normal Cost Method (modified slightly as of June 30, 2005 to use a pay-weighted average normal contribution rate). The results of each June 30 valuation normally determine the employer contribution rate for the second succeeding fiscal year. Act 120 revised the funding method effective with the June 30, 2010 valuation. Act 120 mandated that the outstanding balance of the unfunded accrued liability as of June 30, 2010, including changes in the unfunded accrued liability due to the funding reforms of Act 120, be amortized over a 24-year period, as a level percent of pay, beginning July 1, 2011. Future valuation gains and losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, are amortized over a 24-year period, as a level percent of pay. Future increases in the unfunded accrued liability due to legislation will be amortized over a 10-year period, as a level percent of pay. Act 120 also modified the employer pension contribution requirements by imposing collars on the rate at which employer contributions may rise from year to year. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with the fiscal year in which the actuarially required contribution rate is less than the collared rate, the final contribution rate is the actuarially determined contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

**Actuarial Cost Method for GASB 25 Accounting for Pensions:** Same as for pension funding, except that the GASB 25 amortization payment will be set equal to the level dollar amount that will amortize the unfunded accrued liability over a period of 30 years.

**Actuarial Cost Method for Health Insurance Funding:** The actuarial liability equals the assets in the health insurance account, and the results of the June 30 valuation determine the contribution rate for the second succeeding fiscal year. The rate so determined is the rate necessary to establish reserves sufficient to cover administrative expenses and provide premium assistance payments for all participating eligible annuitants during the third fiscal year that follows the valuation date.

**Actuarial Cost Method for GASB 43 Accounting for Health Insurance:** The actuarial liability is determined under the entry age actuarial cost method, and the Annual Required Contribution (ARC) for the second fiscal year that follows the valuation date is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years.

#### DATA

**Census and Assets:** The valuation was based on members of the Retirement System as of June 30, 2011 and does not take into account future members. All census data was supplied by the Retirement System and was subject to reasonable consistency checks. The actuary adjusts the data to account for service and pay earned by members on or before the valuation that is not reported by the Retirement System until after the actuarial valuation is performed. Asset data was supplied by the Retirement System.

## TABLE 13

### SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

#### MEMBERSHIP

For valuation purposes, all employees are considered to be full coverage. All employees who become members on and after January 1, 1966 are members of the dual coverage group. Dual coverage members contribute to both PSERS and to Social Security.

#### BENEFITS

##### Superannuation Annuity

**Eligibility** Age 62, or age 60 with 30 years of service, or 35 years of service regardless of age. For Class T-E and Class T-F members, age 65 with a minimum of three years of service credit, or any combination of age and service that totals 92 with at least 35 years of credited service

**Amount** 2.5% of final average salary times years of school service and intervening military service. 2% of final average salary for non-school service, for members who do not elect Class T-D coverage, and for Class T-E members. Minimum of \$100 per year of service. "Final average salary" means the highest average annual salary for any 3 years of service.

Annual salary is subject to a limit of \$200,000, as adjusted under Section 401(a)(17). As of June 30, 2011, the adjusted limit is \$245,000.

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

For Class T-E and Class T-F members, the maximum benefit is equal to the lesser of the limit established by Section 415 of the Internal Revenue Code or 100% of final average salary.

##### Early Retirement Annuity

**Eligibility** Age 55 with 25 years of service.

**Amount** Accrued benefit as of date of retirement, reduced 1/4% for each month by which commencement of payments precedes Superannuation Age.

**TABLE 13**

**SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

For Class T-E and Class T-F members, the maximum benefit is equal to the lesser of the limit established by Section 415 of the Internal Revenue Code or 100% of final average salary.

**Withdrawal Annuity**

Eligibility 5 years of service. For Class T-E and Class T-F members, ten years of service.

Amount Accrued benefit deferred to superannuation retirement age or an actuarially reduced benefit payable immediately. Actuarially equivalent benefits are based on 4% interest and a unisex table based on the RP-2000 Combined Healthy Annuitant Tables (Male and Female) with age set back 3 years for both genders assuming the population consists of 25% males and 75% females.

**Disability Annuity**

Eligibility 5 years of service.

Amount The standard single life annuity if the total number of credited service is greater than 16.667, otherwise the standard single life annuity multiplied by the lesser of the following ratios:  $(Y^*/Y)$  or  $(16.667/Y)$  where Y is the number of years of credited service and Y\* is the total years of credited service if the member were to continue as a school employee until superannuation retirement age (or at current age, if later). Minimum of \$100 per year of service.

**Return of Contributions**

Eligibility Death or separation from service and member does not qualify for other benefits.

**TABLE 13**

**SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

Amount	Refund of accumulated deductions includes interest (less annuity payments received prior to death in the case of a retired member).
<b>Death Benefit</b>	
Eligibility	Death of an active member or vestee who was eligible to receive an annuity.
Amount	The present value of the annuity that would have been effective if the member retired on the day before death. Option 1 assumed payable if no other option elected.
<b>Normal and Optional Forms of Benefits</b>	
Normal Form:	Life annuity with a guaranteed payment equal to member contributions with interest.
Option 1:	Reduced benefit with refund of balance of present value of annuity at retirement over payments received. If balance is less than \$5,000, benefit is paid in lump sum; otherwise, beneficiary may elect annuity and/or lump sum.
Option 2:	Joint and 100% survivorship annuity.
Option 3:	Joint and 50% survivorship annuity.
Option 4:	Benefit of equivalent actuarial value, including lump sum payment of member contributions. Class T-E and Class T-F members cannot elect to receive a lump sum payment of member contributions.
<b>Health Care Premium Assistance</b>	
Eligibility	Retired members who: (a) have 24½ or more years of service, or (b) are disability annuitants, or (c) have 15 or more years of service and who both terminated school service and retired after attaining superannuation age and

**TABLE 13**

**SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

(d) participate in the PSERS health options program or in an employer-sponsored health insurance program.

Amount

Participating eligible annuitants receive health insurance premium assistance payments from the Health Insurance Account equal to the lesser of \$100 per month or the actual monthly premium. All administrative expenses necessary to operate the health insurance premium assistance program are to be funded by the Health Insurance Account. The Health Insurance Account is credited with contributions of the Commonwealth and the employers.

**CONTRIBUTIONS**

By Members

Members who elected coverage under Class T-D and who were most recently enrolled prior to July 22, 1983 contribute at a rate of 6½% of compensation, while members who elected coverage under Class T-D and who were most recently enrolled on or after July 22, 1983 contribute at a rate of 7½% of compensation. Members who did not elect coverage under Class T-D and who were most recently enrolled prior to July 22, 1983 contribute at a rate of 5¼% of compensation, while members who did not elect coverage under Class T-D and who were most recently enrolled on or after July 22, 1983 and prior to July 1, 2001 contribute at a rate of 6¼% of compensation. Anyone who enrolls or re-enrolls on or after July 1, 2001 automatically has coverage under class T-D for subsequent school service and subsequent intervening military service, and must contribute at a rate of 7½% of compensation. Reduction in rate for a joint coverage member: 40% of Social Security tax, exclusive of disability and medical coverage portion.

The base contribution rate for Class T-E members is 7½% of compensation. The base contribution rate for Class T-F members is 10.3% of compensation. Class T-E and Class T-F members are subject to a “shared-risk” employee contribution rate. Members benefit when investments of the fund are doing well and share some of the risk when investments underperform. The member contribution rate will stay within the specified range allotted for Class T-E or Class T-F members, but could increase or decrease every three years

**TABLE 13**

**SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

starting July 1, 2015 depending on investment performance. The member contribution rate can never go below the base rate of 7.5% for Class T-E members and 10.3% for Class T-F members, nor above 9.5% for Class T-E members and 12.3% for class T-F members. If the investment rate of return (less investment fees) is equal to or exceeds the assumed rate of return based on the prior ten-year period, the member contribution rate will decrease by .5%. Likewise, the member contribution rate will increase by .5% if the investment rate of return (less investment fees) during the ten-year period is 1.0% or more below the assumed rate of return. If the Retirement System is fully funded at the time of the comparison, the member contribution rate reverts back to the base rate for the Class. There shall not be an increase in the member contribution rate if there has not been an equivalent increase in the employer contribution rate over the previous three-year period. Until a full ten-year look back period is available, the investment return measurement period will begin on July 1, 2011.

By Commonwealth and  
School Districts

Balance of required contribution determined as normal contribution, accrued liability contribution, supplemental annuity contribution, experience adjustment factor and premium assistance contribution, is funded by the Commonwealth and the School Districts.

**TABLE 14**

**SUMMARY OF MEMBERSHIP DATA  
AS OF JUNE 30, 2011  
(\$ Amounts in Thousands)**

**ACTIVE MEMBERS\***

Item	Male	Female	Total
Number of Members	76,181	202,971	279,152
Annual Salaries **	\$ 3,936,878	\$ 8,973,165	\$ 12,910,043
Average Age ***	44.1	44.6	44.5
Average Service ***	10.8	10.3	10.4

\* Excludes 115,102 inactive members and vestees.

\*\* The salaries shown in the table above represent an annual rate of pay for the year ended June 30, 2011 for members who were in active service on June 30, 2011.

\*\*\* Average completed years of age and service.

**ANNUITANTS AND BENEFICIARIES**

Item	Number	Annual Annuities <sup>#</sup>	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	175,636	\$ 4,407,341	\$ 25,094	69.8
Survivors and Beneficiaries	10,957	104,606	9,547	73.7
Disabled Annuitants	<u>8,029</u>	<u>138,851</u>	17,294	63.4
Total	194,622	\$ 4,650,798	23,897	69.8

**NEW ANNUITANTS AND BENEFICIARIES\***

Item	Number	Annual Annuities <sup>#</sup>	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	12,464	\$ 416,745	\$ 33,436	60.9
Survivors and Beneficiaries	3,018	24,016	7,958	68.3
Disabled Annuitants	<u>420</u>	<u>9,138</u>	21,757	53.9
Total	15,902	\$ 449,899	28,292	62.1

# The annuities shown in the tables above represent the annual amount payable as of July 1, 2011 for participants who were in payment on June 30, 2011.

\* Excludes 324 newly reported annuitants who retired prior to June 30, 2010 and 2 members who retired after June 30, 2010 but died prior to June 30, 2011.

**EXHIBIT I**

**ACTIVE MEMBERSHIP DATA AS OF JUNE 30, 2011  
NUMBER AND AVERAGE ANNUAL SALARY**

Age	Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 25</b>	8,995 \$28,514	80 \$27,608								9,075 \$28,506
<b>25-29</b>	21,334 \$37,630	7,988 \$50,162	46 \$37,708							29,368 \$41,039
<b>30-34</b>	10,056 \$35,666	16,490 \$53,506	4,539 \$61,500	31 \$45,860						31,116 \$48,899
<b>35-39</b>	8,088 \$28,470	7,966 \$50,498	12,085 \$64,275	2,458 \$71,978	40 \$50,286					30,637 \$51,840
<b>40-44</b>	10,229 \$24,037	7,611 \$42,146	7,723 \$60,094	8,138 \$74,242	2,111 \$73,581	55 \$50,033				35,867 \$49,991
<b>45-49</b>	9,941 \$21,741	8,510 \$34,727	6,604 \$46,535	4,393 \$64,425	5,211 \$74,037	1,905 \$71,669	102 \$49,119			36,666 \$44,437
<b>50-54</b>	7,865 \$21,456	8,218 \$33,322	8,278 \$41,634	5,136 \$53,278	4,080 \$66,205	4,537 \$74,569	2,741 \$75,128	73 \$48,341		40,928 \$45,904
<b>55-59</b>	5,295 \$21,337	5,636 \$33,583	6,743 \$41,615	5,723 \$51,534	5,140 \$60,752	3,408 \$69,810	4,919 \$79,556	1,482 \$79,553	25 \$45,766	38,371 \$50,516
<b>60-64</b>	3,131 \$19,966	3,068 \$31,927	3,050 \$39,596	2,863 \$48,604	2,966 \$54,531	1,914 \$61,081	980 \$70,382	1,015 \$84,060	272 \$82,612	19,259 \$45,475
<b>Over 64</b>	2,339 \$13,937	1,644 \$21,415	1,128 \$29,088	827 \$35,347	687 \$41,361	477 \$42,480	360 \$44,466	201 \$53,596	202 \$78,025	7,865 \$28,108
<b>Total</b>	87,273 \$28,497	67,211 \$43,149	50,196 \$51,955	29,569 \$60,959	20,235 \$65,020	12,296 \$69,347	9,102 \$75,506	2,771 \$78,499	499 \$78,909	279,152 \$46,247

**EXHIBIT II**

**THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Years of Service									Total	
	0-4*	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
<b>Under 50</b>		3,069	1,173	328	105	16	2			4,693	
		\$835	\$2,086	\$5,508	\$9,651	\$12,475	\$31,815			\$1,721	
<b>50-54</b>		1,023	983	447	235	136	76	36		2,936	
		\$1,272	\$2,075	\$5,041	\$10,557	\$21,402	\$33,303	\$50,740		\$5,214	
<b>55-59</b>		897	1,557	914	668	1,086	4,050	2,675	11	11,858	
		\$1,843	\$2,646	\$6,501	\$13,648	\$30,502	\$47,033	\$58,711	\$50,378	\$33,904	
<b>60-64</b>		223	1,252	3,653	2,594	2,530	3,853	12,479	11,550	554	38,688
		\$3,823	\$3,684	\$3,847	\$9,979	\$19,346	\$30,961	\$44,086	\$56,941	\$68,825	\$37,722
<b>65-69</b>		729	1,695	3,822	3,516	3,419	4,181	11,410	7,619	885	37,276
		\$1,540	\$3,551	\$4,636	\$9,915	\$17,652	\$27,342	\$36,844	\$51,402	\$64,712	\$29,608
<b>70-74</b>		822	1,223	2,883	2,895	3,121	3,587	6,209	4,668	899	26,307
		\$1,141	\$2,906	\$4,290	\$8,535	\$13,623	\$21,697	\$31,395	\$39,754	\$53,621	\$22,451
<b>75-79</b>		659	1,066	2,559	2,494	2,843	3,134	3,944	2,833	1,052	20,584
		\$907	\$2,228	\$3,614	\$6,672	\$11,266	\$18,064	\$27,293	\$36,269	\$42,560	\$18,105
<b>80-84</b>		563	923	2,282	2,352	2,654	2,677	2,600	1,945	887	16,883
		\$770	\$1,837	\$3,421	\$6,295	\$11,121	\$16,994	\$24,116	\$32,659	\$40,915	\$15,534
<b>85-89</b>		432	653	1,570	1,772	1,679	1,546	1,154	1,073	440	10,319
		\$1,252	\$1,582	\$3,367	\$6,162	\$10,513	\$15,546	\$20,253	\$26,133	\$36,714	\$12,310
<b>Over 89</b>		267	462	1,015	1,031	945	826	583	646	317	6,092
		\$2,114	\$1,855	\$3,584	\$6,393	\$9,874	\$13,630	\$18,547	\$22,292	\$27,906	\$10,883
<b>Total</b>		3,695	12,263	21,497	18,343	18,199	21,042	42,507	33,045	5,045	175,636
		\$1,367	\$2,093	\$3,662	\$7,872	\$13,899	\$23,052	\$36,770	\$48,492	\$49,599	\$25,094

\*Includes 76 annuitant records with no service information provided.

**EXHIBIT III**

**THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2011**

**BENEFICIARIES AND SURVIVOR ANNUITANTS**

Age	Years of Service								Total
	0-9*	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	157	32	34	35	30	25	13	8	334
	\$9,840	\$1,781	\$3,680	\$5,846	\$7,734	\$14,816	\$19,028	\$13,741	\$6,247
<b>50-54</b>	184	21	24	22	13	16	10	12	302
	\$14,696	\$1,935	\$3,491	\$5,437	\$9,099	\$14,510	\$11,453	\$11,799	\$6,973
<b>55-59</b>	1,017	27	35	41	48	55	38	15	1,276
	\$19,366	\$3,550	\$4,820	\$7,402	\$14,628	\$15,352	\$18,775	\$11,688	\$5,394
<b>60-64</b>	502	47	39	46	56	130	115	16	951
	\$21,447	\$3,769	\$4,268	\$7,805	\$13,508	\$18,021	\$20,599	\$11,919	\$13,725
<b>65-69</b>	467	54	58	62	73	205	157	31	1,107
	\$19,508	\$3,147	\$5,428	\$9,551	\$12,237	\$18,429	\$22,145	\$15,970	\$13,734
<b>70-74</b>	465	96	108	89	93	181	171	58	1,261
	\$15,915	\$3,498	\$5,589	\$7,851	\$12,658	\$16,042	\$20,326	\$20,302	\$12,183
<b>75-79</b>	408	112	116	111	112	215	180	109	1,363
	\$12,272	\$2,887	\$4,538	\$7,237	\$9,784	\$13,079	\$17,317	\$22,119	\$10,735
<b>80-84</b>	498	146	161	179	168	204	237	116	1,709
	\$11,646	\$3,010	\$4,377	\$7,363	\$9,124	\$12,502	\$13,572	\$17,648	\$9,145
<b>85-89</b>	436	158	145	133	157	170	251	99	1,549
	\$9,005	\$2,744	\$4,171	\$5,940	\$8,270	\$10,127	\$11,757	\$16,850	\$7,824
<b>Over 89</b>	255	124	99	86	92	121	190	138	1,105
	\$7,069	\$2,180	\$3,571	\$5,006	\$7,603	\$8,382	\$10,145	\$11,412	\$6,817
<b>Total</b>	4,389	817	819	804	842	1,322	1,362	602	10,957
	\$7,822	\$2,868	\$4,459	\$6,990	\$10,102	\$14,035	\$15,865	\$16,597	\$9,547

\*Includes 4,297 beneficiary or survivor annuitant records with no service information provided.

**EXHIBIT IV**

**THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
<b>Under 50</b>		241	161	93	43	8					546
		\$11,895	\$14,705	\$19,350	\$26,066	\$24,520					\$15,247
<b>50-54</b>		217	176	141	106	70	16				726
		\$10,553	\$12,392	\$17,346	\$24,278	\$35,772	\$37,473				\$17,347
<b>55-59</b>		280	332	272	263	264	126	1			1,538
		\$9,633	\$12,514	\$16,115	\$24,509	\$36,630	\$46,210	\$29,573			\$21,578
<b>60-64</b>		339	354	320	334	423	238	5	5		2,018
		\$7,682	\$10,573	\$15,668	\$22,612	\$33,155	\$45,211	\$26,982	\$27,980		\$21,785
<b>65-69</b>		206	276	242	271	231	87	4			1,317
		\$6,230	\$8,729	\$11,745	\$19,000	\$27,556	\$36,681	\$39,469			\$16,248
<b>70-74</b>		135	193	176	149	94	26	2	1		776
		\$5,162	\$7,764	\$9,541	\$15,325	\$22,756	\$30,467	\$42,997	\$10,189		\$11,836
<b>75-79</b>		94	133	124	96	59	12	1	2		521
		\$4,623	\$6,092	\$8,536	\$12,874	\$19,760	\$24,309	\$43,179	\$13,579		\$9,726
<b>80-84</b>		63	109	64	62	34	2	1	1		336
		\$3,454	\$5,270	\$8,178	\$13,287	\$17,671	\$23,238	\$24,751	\$54,601		\$8,529
<b>85-89</b>		41	48	22	30	24	7				172
		\$3,806	\$6,343	\$9,107	\$12,048	\$15,882	\$18,866				\$8,927
<b>Over 89</b>		13	16	19	12	9	9	1			79
		\$3,034	\$4,479	\$7,667	\$9,790	\$14,787	\$20,175	\$41,784			\$9,249
<b>Total</b>		1,629	1,798	1,473	1,366	1,216	523	15	9		8,029
		\$8,156	\$10,069	\$13,629	\$20,233	\$30,576	\$41,716	\$34,538	\$25,761		\$17,294

**EXHIBIT V**

**ANNUITANT AND BENEFICIARY MEMBERSHIP DATA  
AS OF JUNE 30, 2011**

**NUMBER AND AVERAGE ANNUAL BENEFIT  
EXCLUDES PARTIAL LUMP SUM PAYMENTS**

Age Last Birthday	Number	Annual Benefit (Thousands)	Average Annual Benefit
<b>Annuitants (Normal, Early and Withdrawal)</b>			
Under 60	19,487	\$ 425,419	\$ 21,831
60 - 64	38,688	1,459,401	37,722
65 - 69	37,276	1,103,651	29,608
70 - 74	26,307	590,606	22,451
75 - 79	20,584	372,668	18,105
Over 79	33,294	455,596	13,684
Total	175,636	\$ 4,407,341	\$ 25,094
<b>Survivors and Beneficiaries</b>			
Under 60	1,912	\$ 11,075	\$ 5,792
60 - 64	951	13,052	13,725
65 - 69	1,107	15,203	13,734
70 - 74	1,261	15,363	12,183
75 - 79	1,363	14,632	10,735
Over 79	4,363	35,281	8,086
Total	10,957	\$ 104,606	\$ 9,547
<b>Disabled Annuitants</b>			
Under 60	2,810	\$ 54,106	\$ 19,255
60 - 64	2,018	43,962	21,785
65 - 69	1,317	21,398	16,248
70 - 74	776	9,185	11,836
75 - 79	521	5,067	9,726
Over 79	587	5,133	8,744
Total	8,029	\$ 138,851	\$ 17,294
<b>Grand Total Average Annual Benefit</b>			
	194,622	\$ 4,650,798	\$ 23,897

**EXHIBIT VI**

**10 YEAR HISTORY OF MEMBERSHIP DATA**

Valuation as of June 30	Number of Active Members	Percentage Change in Membership	Total Annual Payroll (Thousands)	Percentage Change in Payroll
2011	279,152	(1.02%)	\$ 12,910,043	0.95%
2010	282,041	0.84%	12,788,847	2.11%
2009	279,701	2.57%	12,524,593	5.06%
2008	272,690	3.28%	11,921,469	4.48%
2007	264,023	0.26%	11,410,257	(0.08%)
2006	263,350	3.09%	11,419,049	8.47%
2005	255,465	3.05%	10,527,668	4.95%
2004	247,901	0.49%	10,030,705	3.91%
2003	246,700	1.68%	9,652,881	2.92%
2002	242,616	(0.29%)	9,378,944	(0.38%)

**EXHIBIT VI**  
(Continued)

**10 YEAR HISTORY OF MEMBERSHIP DATA**

**THE NUMBER AND ANNUAL ANNUITIES OF  
ANNUITANT AND SURVIVOR ANNUITANT MEMBERS**

Year Ended June 30	Number	Annual Annuities* (Millions)	Average Annual Annuities	Additions	Annual Annuities (Millions)	Deletions	Annual Annuities (Millions)	Percentage Change in Membership	Percentage Change in Annuities
2011	194,622	\$ 4,650.8	\$ 23,897	16,228	\$ 453.7	6,540	\$ 76.4	5.24%	7.17%
2010	184,934	4,339.6	23,466	12,649	372.8	5,678	77.6	3.92%	8.59%
2009	177,963	3,996.3	22,456	9,651	314.9	5,228	74.4	2.55%	4.85%
2008	173,540	3,811.5	21,963	10,911	345.3	5,397	73.9	3.28%	8.18%
2007	168,026	3,523.4	20,970	10,612	307.5	4,399	56.0	3.84%	7.60%
2006	161,813	3,274.5	20,236	10,637		5,343		3.38%	8.16%
2005	156,519	3,027.6	19,343	10,050		5,083		3.28%	8.20%
2004	151,552	2,798.2	18,464	10,526		4,667		4.02%	9.94%
2003	145,693	2,545.1	17,469	9,079		4,800		3.03%	13.20%
2002	141,414	2,248.3	15,899	13,003		4,305		6.55%	20.10%

\* Reflects changes in annuities for continuing payees due to finalization of benefit calculations and due to the commencement of supplemental annuity payments.

**EXHIBIT VII**

**DETAILED TABULATIONS OF THE DATA**

**TABLE 1**

**THE NUMBER AND ANNUAL SALARIED  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
AGE AS OF JUNE 30, 2011**

Age	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
17	6	\$ 60,593	3	\$ 65,126	9	\$ 125,720
18	17	150,775	21	199,118	38	349,893
19	80	1,086,930	57	569,496	137	1,656,426
20	163	1,975,643	147	1,592,271	310	3,567,914
21	231	3,212,125	193	2,270,425	424	5,482,550
22	345	7,064,779	620	14,850,498	965	21,915,276
23	763	20,426,489	2,069	62,063,893	2,832	82,490,382
24	1,199	36,455,971	3,161	106,644,539	4,360	143,100,510
25	1,422	47,685,839	3,756	137,672,064	5,178	185,357,903
26	1,637	59,856,890	4,108	161,636,418	5,745	221,493,308
27	1,551	61,416,488	4,318	180,727,000	5,869	242,143,487
28	1,660	69,286,303	4,542	197,469,720	6,202	266,756,022
29	1,845	82,618,161	4,529	206,869,604	6,374	289,487,765
30	1,835	86,944,630	4,560	213,620,408	6,395	300,565,038
31	1,963	96,166,713	4,520	214,464,604	6,483	310,631,317
32	1,881	95,134,666	4,391	211,612,392	6,272	306,747,059
33	1,829	95,877,117	4,111	201,541,031	5,940	297,418,148
34	1,878	100,919,443	4,148	205,262,064	6,026	306,181,508
35	1,878	104,581,092	3,974	196,573,320	5,852	301,154,412
36	1,823	103,075,941	4,028	200,320,092	5,851	303,396,033
37	1,799	106,021,517	3,989	197,826,577	5,788	303,848,094
38	1,963	115,854,172	4,305	208,819,181	6,268	324,673,353
39	2,044	122,514,798	4,834	232,637,097	6,878	355,151,895
40	2,154	129,295,349	5,450	262,785,984	7,604	392,081,333
41	1,968	120,910,695	5,403	260,471,253	7,371	381,381,948
42	1,940	118,062,392	5,181	238,509,351	7,121	356,571,742
43	1,775	108,678,251	5,102	227,454,558	6,877	336,132,810
44	1,750	103,459,230	5,144	223,396,064	6,894	326,855,294
45	1,815	106,431,323	5,104	213,315,666	6,919	319,746,989
46	1,752	99,046,370	5,457	221,833,524	7,209	320,879,894
47	1,830	104,472,178	5,724	225,926,757	7,554	330,398,935
48	1,794	98,904,675	5,602	226,421,914	7,396	325,326,589
49	1,799	98,452,114	5,789	234,535,308	7,588	332,987,421
50	1,919	105,225,066	6,141	249,183,910	8,060	354,408,975
51	1,888	103,674,894	5,855	239,326,296	7,743	343,001,189
52	1,988	107,798,381	6,083	258,374,837	8,071	366,173,218
53	2,062	114,005,855	6,342	282,102,011	8,404	396,107,865
54	2,115	121,835,597	6,535	297,237,801	8,650	419,073,398
55	1,988	113,631,172	6,241	289,645,678	8,229	403,276,850
56	2,054	117,187,162	6,128	296,020,444	8,182	413,207,606

**TABLE 1**  
(Continued)

**THE NUMBER AND ANNUAL SALARIED  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
AGE AS OF JUNE 30, 2011**

Age	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
57	1,822	\$ 100,894,597	5,953	\$ 294,323,181	7,775	\$ 395,217,778
58	1,845	103,019,451	5,542	279,640,176	7,387	382,659,627
59	1,737	93,625,313	5,061	250,364,283	6,798	343,989,596
60	1,432	76,727,825	4,212	202,311,101	5,644	279,038,926
61	1,247	63,182,615	3,399	156,975,456	4,646	220,158,071
62	977	47,337,760	2,458	104,990,219	3,435	152,327,979
63	857	37,960,312	1,975	79,586,741	2,832	117,547,053
64	857	35,382,779	1,845	71,347,397	2,702	106,730,176
65	444	17,349,255	913	31,238,218	1,357	48,587,473
66	393	12,625,258	751	23,777,241	1,144	36,402,499
67	376	11,179,207	612	17,872,258	988	29,051,465
68	349	11,131,060	500	13,910,709	849	25,041,770
69	284	8,120,582	430	10,317,487	714	18,438,068
70	205	5,446,798	289	6,652,832	494	12,099,630
71	210	5,338,051	266	6,247,103	476	11,585,155
72	144	4,060,977	214	4,428,488	358	8,489,465
73	123	3,122,710	194	4,188,834	317	7,311,544
74	117	2,939,349	147	3,176,043	264	6,115,392
75	90	2,123,085	130	2,304,731	220	4,427,817
76	71	1,535,384	92	1,886,271	163	3,421,655
77	57	1,310,304	81	1,496,983	138	2,807,287
78	33	764,479	61	1,371,519	94	2,135,998
79	21	410,112	47	739,546	68	1,149,658
80	31	630,760	41	758,475	72	1,389,235
81	21	534,931	16	201,667	37	736,598
82	12	224,020	17	254,019	29	478,039
83	7	149,521	17	211,515	24	361,035
84	5	81,212	10	138,630	15	219,841
85	7	137,352	20	342,203	27	479,555
86	2	20,406	9	193,608	11	214,014
87	2	54,806	4	69,710	6	124,516
<b>Total</b>	76,181	\$ 3,936,878,047	202,971	\$ 8,973,164,935	279,152	\$ 12,910,042,982

**TABLE 2**

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2011**

Service	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
0	5,436	\$ 75,821,444	10,073	\$ 148,332,203	15,509	\$ 224,153,647
1	5,711	154,440,003	14,063	347,316,231	19,774	501,756,234
2	4,517	156,545,623	13,331	396,656,560	17,848	553,202,183
3	4,413	168,944,920	13,239	432,513,963	17,652	601,458,884
4	3,977	166,936,010	12,513	439,541,234	16,490	606,477,244
5	3,964	177,784,350	12,233	462,318,365	16,197	640,102,716
6	3,677	175,313,425	10,967	436,807,076	14,644	612,120,501
7	3,304	168,061,575	9,758	406,783,399	13,062	574,844,975
8	3,065	161,281,039	8,741	375,369,277	11,806	536,650,316
9	2,938	158,653,312	8,564	377,698,454	11,502	536,351,766
10	2,807	156,780,819	8,361	376,939,175	11,168	533,719,994
11	2,556	148,163,026	8,087	376,680,716	10,643	524,843,743
12	3,033	187,416,666	7,957	394,801,492	10,990	582,218,158
13	2,523	157,881,619	6,469	330,894,560	8,992	488,776,179
14	2,519	166,153,842	5,884	312,199,170	8,403	478,353,011
15	1,982	131,961,061	4,964	272,524,940	6,946	404,486,001
16	1,713	117,867,039	4,476	253,277,953	6,189	371,144,992
17	1,538	103,907,548	4,098	238,273,238	5,636	342,180,786
18	1,890	134,563,654	4,209	251,208,428	6,099	385,772,082
19	1,280	89,629,845	3,419	209,281,891	4,699	298,911,736
20	1,087	74,819,232	3,140	190,434,755	4,227	265,253,987
21	1,122	78,092,111	3,161	199,651,235	4,283	277,743,346
22	1,164	80,728,566	3,034	191,036,467	4,198	271,765,033
23	1,096	76,914,791	2,856	183,085,813	3,952	260,000,604
24	1,017	72,634,716	2,558	168,286,404	3,575	240,921,120
25	891	64,407,098	2,295	152,890,191	3,186	217,297,289
26	768	55,097,445	1,997	135,941,728	2,765	191,039,173
27	745	53,552,327	1,595	108,478,951	2,340	162,031,278
28	697	48,180,556	1,443	101,409,620	2,140	149,590,176
29	580	41,261,478	1,285	91,466,299	1,865	132,727,776
30	591	42,857,394	1,288	93,610,377	1,879	136,467,771
31	610	46,971,413	1,436	105,968,239	2,046	152,939,652
32	699	54,156,287	1,376	101,603,367	2,075	155,759,653
33	560	45,276,594	1,140	87,207,118	1,700	132,483,712
34	481	39,760,861	921	69,841,054	1,402	109,601,915
35	322	26,269,978	569	43,916,365	891	70,186,342
36	238	19,130,292	415	30,571,269	653	49,701,561
37	211	17,504,096	363	27,671,012	574	45,175,107
38	141	12,958,008	230	17,387,038	371	30,345,046
39	113	9,309,569	169	12,802,228	282	22,111,797

**TABLE 2**  
(Continued)

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2011**

Service	Male		Female		Total	
	Number	Salaries	Number	Salaries	Number	Salaries
40	59	\$ 5,264,694	85	\$ 6,147,717	144	\$ 11,412,411
41	54	5,182,959	62	4,191,418	116	9,374,377
42	26	2,463,447	38	2,727,417	64	5,190,864
43	21	1,781,180	31	1,975,234	52	3,756,414
44	9	686,471	18	1,307,725	27	1,994,196
45	16	1,507,956	19	1,199,021	35	2,706,976
46	5	464,227	8	508,687	13	972,914
47	4	495,739	3	180,692	7	676,431
48	5	493,371	5	398,302	10	891,673
49			8	632,228	8	632,228
50	1	104,651	5	431,402	6	536,053
51	1	88,857	2	74,220	3	163,076
52	3	318,916	2	180,848	5	499,764
53			2	108,781	2	108,781
55			1	91,495	1	91,495
56			1	101,104	1	101,104
57	1	35,949	2	112,665	3	148,613
58			1	43,652	1	43,652
59			1	74,471	1	74,471
<b>Total</b>	76,181	\$ 3,936,878,047	202,971	\$ 8,973,164,935	279,152	\$ 12,910,042,982

**TABLE 3**

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
25			1	\$ 278	1	\$ 278
26	3	\$ 1,215	2	709	5	1,924
27	1	399	1	533	2	932
28	1	209	8	3,605	9	3,814
29	9	4,463	15	6,436	24	10,899
30	8	5,733	25	13,473	33	19,206
31	25	20,941	45	28,505	70	49,446
32	21	13,282	54	32,687	75	45,969
33	49	47,333	62	44,544	111	91,877
34	39	32,071	78	54,338	117	86,409
35	55	49,641	99	79,952	154	129,593
36	46	45,652	105	84,491	151	130,143
37	57	60,088	128	122,671	185	182,759
38	58	65,300	142	166,201	200	231,501
39	73	107,277	140	161,698	213	268,975
40	91	131,711	185	270,329	276	402,040
41	88	149,430	201	268,571	289	418,001
42	90	167,949	190	262,195	280	430,144
43	73	159,849	185	302,283	258	462,132
44	105	233,133	224	330,546	329	563,679
45	108	307,564	226	381,521	334	689,085
46	108	273,302	229	411,102	337	684,404
47	112	415,996	281	635,289	393	1,051,285
48	134	461,351	291	589,481	425	1,050,832
49	129	385,418	293	684,343	422	1,069,761
50	145	700,426	337	919,346	482	1,619,772
51	155	941,506	361	1,036,307	516	1,977,813
52	159	910,833	389	1,266,526	548	2,177,359
53	201	1,531,885	432	1,895,113	633	3,426,998
54	210	2,411,723	547	3,693,397	757	6,105,120
55	276	5,078,944	615	8,129,707	891	13,208,651
56	392	10,995,762	1,005	24,216,270	1,397	35,212,032
57	632	21,497,331	1,455	43,159,259	2,087	64,656,590
58	942	38,761,064	2,175	76,255,723	3,117	115,016,787
59	1,305	56,825,910	3,061	117,117,211	4,366	173,943,121
60	1,803	81,366,735	4,048	157,686,078	5,851	239,052,813
61	2,058	92,972,256	4,358	167,336,371	6,416	260,308,627
62	2,610	112,968,984	5,038	183,217,099	7,648	296,186,083

**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
63	3,061	\$ 124,598,275	5,606	\$ 190,877,052	8,667	\$ 315,475,327
64	3,750	145,031,395	6,356	203,346,458	10,106	348,377,853
65	3,296	122,838,370	5,338	158,942,156	8,634	281,780,526
66	2,809	98,552,915	4,359	124,299,723	7,168	222,852,638
67	2,696	90,864,085	4,269	112,639,346	6,965	203,503,431
68	2,856	93,480,591	4,533	111,433,708	7,389	204,914,299
69	2,819	90,028,468	4,301	100,571,345	7,120	190,599,813
70	2,251	66,252,092	3,853	85,772,164	6,104	152,024,256
71	1,987	57,503,095	3,436	70,880,408	5,423	128,383,503
72	1,826	47,643,451	3,241	62,770,331	5,067	110,413,782
73	1,808	45,931,711	3,192	59,368,491	5,000	105,300,202
74	1,737	43,454,748	2,976	51,029,605	4,713	94,484,353
75	1,684	42,001,264	2,878	48,079,421	4,562	90,080,685
76	1,537	35,792,375	2,755	41,532,445	4,292	77,324,820
77	1,457	33,234,111	2,515	37,672,719	3,972	70,906,830
78	1,406	31,634,905	2,400	34,836,139	3,806	66,471,044
79	1,446	32,346,467	2,506	35,538,208	3,952	67,884,675
80	1,328	30,959,275	2,542	37,213,433	3,870	68,172,708
81	1,247	25,984,552	2,342	32,537,355	3,589	58,521,907
82	1,068	20,818,339	2,192	27,698,795	3,260	48,517,134
83	955	18,374,130	2,237	27,415,918	3,192	45,790,048
84	922	16,537,155	2,050	24,726,493	2,972	41,263,648
85	805	14,797,360	1,854	21,407,046	2,659	36,204,406
86	729	13,026,971	1,602	16,755,975	2,331	29,782,946
87	576	9,842,647	1,532	15,766,095	2,108	25,608,742
88	464	7,035,010	1,261	12,323,669	1,725	19,358,679
89	357	5,128,842	1,139	10,948,377	1,496	16,077,219
90	282	4,311,667	1,041	10,095,611	1,323	14,407,278
91	219	3,021,075	924	8,825,737	1,143	11,846,812
92	132	1,962,123	653	6,176,618	785	8,138,741
93	131	1,540,020	643	6,479,320	774	8,019,340
94	86	1,070,228	498	4,998,092	584	6,068,320
95	75	909,204	359	3,572,988	434	4,482,192
96	41	508,953	270	2,999,788	311	3,508,741
97	31	494,162	214	2,444,812	245	2,938,974
98	15	254,714	154	1,986,824	169	2,241,538
99	14	189,403	106	1,487,703	120	1,677,106
100	6	50,988	66	912,942	72	963,930
101	5	102,059	47	669,069	52	771,128
102	4	74,282	33	505,623	37	579,905

**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
103	1	\$ 5,389	14	\$ 197,144	15	\$ 202,533
104	1	27,090	14	208,591	15	235,681
105			7	117,526	7	117,526
106			3	54,168	3	54,168
107			1	18,920	1	18,920
108			1	16,204	1	16,204
109			1	9,259	1	9,259
<b>Total</b>	60,291	\$ 1,808,316,622	115,345	\$ 2,599,024,004	175,636	\$ 4,407,340,626

**TABLE 3**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

<u>OPTION</u>		<u>MALE</u>		<u>FEMALE</u>	
Maximum	29,765	\$	921,232,241	72,295	\$ 1,601,978,877
1	8,463		199,074,860	22,559	421,352,219
2	12,651		347,474,680	11,696	300,071,774
3	8,185		285,248,380	8,241	253,526,301
4	<u>1,227</u>		<u>55,286,461</u>	<u>554</u>	<u>22,094,833</u>
	60,291	\$	1,808,316,622	115,345	\$ 2,599,024,004

**DEFINITIONS OF OPTIONS**

- Option 1 A life annuity to the member with a guaranteed payment to the beneficiary equal to the present value of the total maximum single life annuity less any amounts paid to the member prior to death.
- Option 2 A joint and one hundred percent (100%) survivor annuity payable during the lifetime of the member with the full amount of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 3 A joint and fifty percent (50%) survivor annuity payable during the lifetime of the member with one-half of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 4 A life annuity to the member with a special death benefit other than the normal option 1, 2, or 3 death benefit.

**TABLE 4**

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2011**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
10	1	\$ 2,416			1	\$ 2,416
11	1	1,898			1	1,898
12			1	\$ 2,727	1	2,727
16			1	2,751	1	2,751
17	1	2,775			1	2,775
18			2	9,620	2	9,620
19			1	1,614	1	1,614
20	2	10,125	2	2,266	4	12,391
21			1	483	1	483
22	2	6,891	1	1,227	3	8,118
23			1	3,484	1	3,484
24	4	46,062	2	24,567	6	70,629
25	2	2,839	2	6,576	4	9,415
26			5	84,250	5	84,250
27	4	27,020	1	16,131	5	43,152
28			1	13,232	1	13,232
29	3	28,235	4	23,371	7	51,606
30	3	15,461	5	81,714	8	97,175
31	4	20,162	2	9,679	6	29,841
32	2	1,996	4	43,360	6	45,357
33	7	49,608	4	13,847	11	63,455
34	4	8,353	3	11,418	7	19,771
35	3	8,515	1	13,554	4	22,068
36	6	78,326	3	26,535	9	104,862
37	5	22,724	3	8,148	8	30,872
38	4	11,593	6	27,109	10	38,702
39	5	42,931	4	11,641	9	54,572
40	3	20,648	9	52,663	12	73,310
41	7	36,382	6	23,959	13	60,341
42	5	26,801	8	89,854	13	116,655
43	6	24,049	13	38,925	19	62,974
44	11	58,492	14	104,997	25	163,489
45	8	42,198	11	47,055	19	89,253
46	6	58,504	14	124,303	20	182,807
47	11	31,089	23	134,595	34	165,684
48	11	80,639	20	107,557	31	188,196
49	6	38,168	19	118,241	25	156,408

**TABLE 4**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2011**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
50	17	\$ 54,547	24	\$ 142,236	41	\$ 196,783
51	14	86,740	31	259,555	45	346,295
52	21	48,848	52	397,491	73	446,340
53	16	75,266	50	496,359	66	571,625
54	14	58,615	63	486,227	77	544,842
55	34	264,384	740	825,580	774	1,089,964
56	19	188,066	101	1,084,674	120	1,272,740
57	21	159,311	75	1,005,578	96	1,164,889
58	38	360,422	113	1,264,148	151	1,624,569
59	47	536,426	88	1,194,031	135	1,730,457
60	42	418,206	118	1,514,068	160	1,932,274
61	43	376,928	112	1,574,796	155	1,951,724
62	51	632,719	138	2,003,929	189	2,636,648
63	49	570,410	157	2,433,592	206	3,004,002
64	61	861,026	180	2,666,163	241	3,527,189
65	53	681,013	166	2,226,912	219	2,907,925
66	52	671,475	154	2,140,259	206	2,811,734
67	52	693,156	146	2,162,505	198	2,855,661
68	55	634,988	180	2,543,148	235	3,178,136
69	58	730,285	191	2,719,426	249	3,449,711
70	54	713,554	179	2,557,776	233	3,271,330
71	42	325,114	198	2,326,773	240	2,651,887
72	41	514,971	191	2,496,490	232	3,011,461
73	46	540,555	236	2,875,394	282	3,415,950
74	58	512,520	216	2,500,116	274	3,012,636
75	50	405,806	235	2,703,230	285	3,109,036
76	46	324,200	219	2,560,121	265	2,884,321
77	40	437,580	226	2,571,545	266	3,009,125
78	43	360,856	229	2,566,733	272	2,927,589
79	42	345,467	233	2,356,948	275	2,702,416
80	57	485,427	283	2,683,864	340	3,169,291
81	65	610,466	274	2,657,969	339	3,268,435
82	52	367,554	267	2,726,946	319	3,094,501
83	48	394,413	308	2,693,386	356	3,087,799
84	60	535,173	295	2,473,804	355	3,008,976
85	67	448,394	272	2,298,061	339	2,746,455
86	69	518,809	284	2,421,001	353	2,939,810
87	58	433,437	267	2,016,350	325	2,449,786
88	57	342,580	226	1,709,075	283	2,051,655
89	47	298,662	202	1,632,278	249	1,930,940

**TABLE 4**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF BENEFICIARIES AND SURVIVOR ANNUITANTS  
AS OF JUNE 30, 2011**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
90	38	\$ 236,627	176	\$ 1,320,190	214	\$ 1,556,817
91	35	283,559	175	1,297,937	210	1,581,496
92	33	220,564	114	734,080	147	954,644
93	20	140,307	133	885,875	153	1,026,181
94	13	82,683	95	634,672	108	717,355
95	10	59,792	62	410,429	72	470,221
96	12	64,617	45	329,890	57	394,507
97	8	49,528	41	196,246	49	245,774
98	1	1,680	38	255,961	39	257,641
99	3	14,694	9	68,641	12	83,334
100	3	25,053	11	72,462	14	97,515
101			12	61,755	12	61,755
102	1	1,684	6	27,876	7	29,560
103			1	14,808	1	14,808
104			3	15,824	3	15,824
105			2	7,147	2	7,147
106			1	5,104	1	5,104
107			2	11,368	2	11,368
109	1	1,200			1	1,200
110			1	591	1	591
<b>Total</b>	2,114	\$ 19,005,256	8,843	\$ 85,600,846	10,957	\$ 104,606,102

**TABLE 5**

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
26	1	\$ 8,160			1	\$ 8,160
29	1	16,731			1	16,731
31	1	18,718			1	18,718
32			1	\$ 19,113	1	19,113
33			3	48,738	3	48,738
34			5	96,429	5	96,429
35	2	37,619	8	99,878	10	137,497
36	2	28,262	2	25,382	4	53,644
37	1	9,262	12	196,780	13	206,041
38	4	65,899	11	174,791	15	240,691
39	3	42,693	10	131,163	13	173,856
40	4	75,564	15	228,986	19	304,550
41	8	114,389	16	268,855	24	383,244
42	5	67,592	19	272,111	24	339,703
43	14	235,355	15	248,581	29	483,936
44	15	295,348	15	232,065	30	527,413
45	14	213,467	29	472,653	43	686,120
46	12	197,765	46	666,989	58	864,754
47	21	347,003	50	677,203	71	1,024,206
48	26	386,665	63	995,884	89	1,382,549
49	27	424,179	65	884,588	92	1,308,768
50	28	542,536	73	1,068,828	101	1,611,364
51	20	395,255	82	1,428,497	102	1,823,752
52	62	1,158,093	95	1,468,391	157	2,626,484
53	54	929,819	130	2,421,421	184	3,351,240
54	64	1,222,629	118	1,958,418	182	3,181,047
55	81	1,624,404	163	3,165,213	244	4,789,617
56	86	1,958,913	191	4,119,591	277	6,078,504
57	100	2,283,191	200	4,018,776	300	6,301,967
58	109	2,393,493	236	5,006,378	345	7,399,872
59	115	2,806,884	257	5,810,718	372	8,617,603
60	114	2,846,955	272	6,267,233	386	9,114,188
61	109	2,314,767	278	6,238,752	387	8,553,519
62	155	3,667,377	291	6,165,365	446	9,832,742
63	117	2,698,364	268	5,435,325	385	8,133,689
64	134	3,043,331	280	5,284,841	414	8,328,173
65	111	2,125,036	228	3,960,560	339	6,085,596
66	80	1,644,278	168	2,721,341	248	4,365,619
67	73	1,324,383	148	2,430,888	221	3,755,271
68	84	1,288,356	178	2,478,915	262	3,767,271

**TABLE 5**  
(Continued)

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2011**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
69	69	\$ 979,833	178	\$ 2,444,759	247	\$ 3,424,592
70	44	539,487	147	1,799,926	191	2,339,414
71	49	701,394	129	1,394,395	178	2,095,788
72	43	591,292	92	1,087,895	135	1,679,188
73	50	589,671	91	905,859	141	1,495,530
74	39	466,312	92	1,109,085	131	1,575,397
75	36	396,568	75	773,169	111	1,169,737
76	30	393,674	97	809,233	127	1,202,906
77	20	221,151	78	746,890	98	968,041
78	35	420,230	58	435,416	93	855,646
79	15	121,286	77	749,473	92	870,759
80	19	194,714	57	446,422	76	641,136
81	11	124,160	59	425,500	70	549,660
82	22	277,770	51	376,700	73	654,469
83	11	120,331	62	467,829	73	588,160
84	17	245,072	27	187,395	44	432,467
85	14	130,264	40	343,239	54	473,502
86	11	117,199	32	301,366	43	418,565
87	2	11,890	22	175,462	24	187,352
88	4	32,481	22	206,606	26	239,088
89	6	53,304	19	163,696	25	217,000
90	3	34,623	14	139,628	17	174,251
91	1	4,614	14	124,467	15	129,081
92	5	51,573	8	59,203	13	110,776
93			10	129,341	10	129,341
94			7	56,765	7	56,765
95	1	7,175	6	45,921	7	53,096
96			3	21,618	3	21,618
97			1	10,511	1	10,511
98			5	38,111	5	38,111
99						
100	1	7,150			1	7,150
<b>Total</b>	2,415	\$ 45,685,952	5,614	\$ 93,165,523	8,029	\$ 138,851,475

## EXHIBIT VIII

### GLOSSARY

<b>Accrued Liability</b>	The difference between (a) the present value of future plan benefits, and (b) the present value of future normal cost. It is the portion of the present value of future plan benefits attributable to service accrued as of the valuation date. Sometimes referred to as “actuarial accrued liability.”
<b>Accrued Service</b>	The service credited under the plan that was rendered before the date of the actuarial valuation.
<b>Actuarial Assumptions</b>	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the “present value of future plan benefits” between the present value of future normal cost and the accrued liability. Sometimes referred to as the “actuarial funding method.”
<b>Actuarial Equivalent</b>	A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.
<b>Actuarial Value of Assets</b>	The value of current plan assets recognized for valuation purposes. Based on a smoothed market value that recognizes investment gains and losses over a period of ten years.
<b>Amortization</b>	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
<b>Experience Gain (Loss)</b>	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
<b>Normal Cost</b>	The annual cost assumed, under the actuarial funding method, for current and subsequent plan years. Sometimes referred to as “current service cost.”

## **EXHIBIT VIII**

### **GLOSSARY** (Continued)

<b>Present Value</b>	The amount of funds presently required to provide a payment or series of payments in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
<b>Unfunded Accrued Liability</b>	The difference between the actuarial accrued liability and valuation assets.